

DOCUMENT RESUME

ED 321 438

EC 231 558

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TITLE Variability in Autistic Children's Social Responsiveness.
PUB DATE Feb 90
NOTE 8p.; Paper presented at the Meeting of the International Neuropsychological Society (Orlando, FL, February 1990).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adolescents; *Autism; Elementary Secondary Education; *Interpersonal Communication; *Interpersonal Competence; Peer Relationship; Preadolescents; Prosocial Behavior; *Social Behavior; Stranger Reactions; Student Reaction; Teacher Student Relationship; Young Children

ABSTRACT

This study attempted to systematically explore the range of variation in social response in 17 subjects (ages 5 to 15) with infantile autism. To collect observational data on social initiations, social responses, social monitoring with eye contact, and responses to specific types of social events, subjects were observed during free play in their classroom and during a play session with a stranger. Few children gave spontaneous prosocial responses to simulated distress episodes involving bumped knees or loss of a favorite pen. Children made more social bids to teachers than to other children, but both were low. Most eye contacts accompanied social bids or responses, but some occurred in the absence of any other overt social interchange. The nature of the children's response to social bids by others was positive. Five sources of variability in social responsiveness were apparent: between subjects, across time, between objects, across situations, and between social behavior components. Observations reveal the complexity of social behavior in this socially impaired population. (JDD)

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Variability in Autistic Children's Social Responsiveness

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Presented at: International Neuropsychological Society
Orlando, Florida
February, 1990

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INTRODUCTION

DSM-III criteria for infantile autism include pervasive unresponsiveness to other people. However, it is widely recognized among those who study or work with autistic children that few autistic children are in fact pervasively unresponsive to others. There is a wide gamut of responsiveness and social awareness among those who meet criteria for autism or Pervasive Developmental Disorder. DSM-III-R is an attempt to widen the diagnostic net of permissible social abnormalities, from total lack of social responsiveness to bizarre sociability with violation of unspoken social rules. To date, there has been no published research which attempts to systematically explore the range of variation in social response in this heterogeneous population.

METHOD

To collect basic observational data on social initiations, social responses, social monitoring with eye contact, and responses to specific types of social events, 17 autistic children were observed for 4 15 minute free play intervals in their classroom, and one 30 minute structured videotaped play session with a stranger. The autistic children ranged in chronological age from 5 yrs-7 mos to 15 yrs-7 mos; all had a minimum mental age on nonverbal testing of 3 years. (Table 1)

Each observation session was devoted to a single target child. Running notes were taken on every event involving the target child and behavior codes, with previously established reliability, were then applied to the notes. During the structured videotaped interview, the interviewer simulated physical distress by bumping an elbow or knee, and mental distress by pretending to lose her favorite pen. At the end of the session, the returning teacher also simulated physical distress. Responses to these events were coded from the videotape with categories adapted from studies of normal development (Radke-Yarrow, Zahn-Waxler, Barret, Darby, King, Pickett and Smith, 1976).

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RESULTS

Means, standard deviations (SD) and frequencies of major observation variables are presented in Tables 2 & 3. Few children gave spontaneous prosocial responses to any of the simulated distress episodes. Only 5/17 were apparently unaware of the physical distress events, but more (11/17) showed no response to the mental distress (lost pen). In the classroom observation, naturally occurring distress events occurred too rarely for statistical treatment, but examination of individual data suggests that about half the children showed no response to other children's distress and that response to distress in the classroom and the play session were not consistent.

Spontaneous social behavior in the classroom was widely variable (Table 2). The children made more social bids to teachers than to other children, but both were low (average of 5.82 bids to teacher, and 3.24 to peers in a total of one hour observation time). Monitoring of others, as indexed by eye contact, was slightly higher than actual bids to others (6.94) but still quite low. Most eye contacts accompanied social bids or responses, but some occurred in the absence of any other overt social interchange. The nature of the children's response to social bids by others was surprisingly positive. Most of the children had ample opportunity to respond to a social bid, the number of such opportunities ranging from 9 to 30, with a mean of 16. Most of these were bids from teacher, including invitations to play, facilitations of play with other children, questions and information giving. Percent of compliance responses ranged from 42% to 100%, with a mean of 75%. Actively negative responses ranged from 0 to 43%, with a mean of 15%. Non-response ranged from 0 to 33%, with a mean of 10%.

Variables with high enough frequencies were compared to other social variables (Table 4). Social bids to teacher were correlated with social bids to other children ($p < .01$). These variables were uncorrelated with the number of bids to the child, the nature of his response to such bids or number of eye contacts. Ratings of global sociability were correlated with social bids to teacher, compliance and level of play. All other correlations among social variables were nonsignificant. Peabody Picture Vocabulary Test mental age was significantly correlated with level of play ($r = .60$, $p < .01$) and negatively related to eye contacts ($r = -.59$, $p < .05$). We also informally examined the variability within children across the four observation sessions and found it to be moderately high. For the lower functioning, more asocial children, there was little variability, with few social bids in any session, but the more social children were quite variable, many of them varying widely in the number of bids to others.

DISCUSSION

Five sources of variability in social responsiveness in autistic children were apparent: (1) Between subjects. There was large variation between children in the degree and nature of their social responsiveness. (2) Across time. There was considerable variability across sessions especially for the higher functioning children. (3) Between objects. The children were observed to be different in relatedness to teachers, unfamiliar adults, and other children, and, by report, parents and sibs. (4) Across situations. Responses to others' distress was inconsistent between classroom and videotaped play session, and response to distress was unrelated to sociability in the classroom. (5) Between components. Different components of social behavior showed low correlations with each other, within individual children. Social bids to others was a more discriminating variable than was social responsiveness. Both social initiations and social responses contributed to a global impression of sociability, while monitoring of the social environment did not. Mental age level did not explain a significant portion of the variance in any social behavior (except that lower MA children did more social monitoring, perhaps because they find their social environment less predictable).

Thus, our naturalistic observations reveal in a preliminary way, the awesome complexity of social behavior in general, and in particular, in this socially impaired population. They highlight the danger of overgeneralizing from one social behavior component, one sample of behavior, one situation, one object, or one type of autistic child, to a theory of the social impairment in autism in general.

TABLE 1
SUBJECT CHARACTERISTICS

	n
Total Number of Subjects	17
Number of Males	15
Number of Females	2
Peabody Picture Vocabulary Test	
IQ Range	
>40	5
41-55	4
56-69	4
70-85	3
86+	0
Chronological Age	
Range	67-187 mos.
$\bar{x}$	139.7 mos.
SD	34.8 mos.

TABLE 2
CLASSROOM OBSERVATIONS

Total of Social Behaviors Across 4 15 Minute Observations

	Range	$\bar{x}$	SD
Number of Social Bids to Teacher	0-15	5.82	4.7
Number of Social Bids to Other Child	0-10	3.24	3.0
Eye Contacts	2-17	6.94	4.7
Percentage of Positive Responses to Social Bids (Compliant or Actively Cooperative)	.42-1.00	.75	.20

TABLE 3
FREQUENCY OF PLAY SESSION VARIABLES

	<u>n</u>
<u>Global Sociability</u>	
Very aloof, allows contact only for need fulfillment	2
Aloof, but responds minimally at times to social bid	9
Moderately responsive to examiner, but minimal initiations	2
Actively engages examiner in dialogue and play	4
<u>Response to Distress of Interviewer</u>	
No response	5
Looks at distressed adult	6
Other responses (withdraws, neutral, aggression, self-concern, cessation of activity)	2
Prosocial response (verbalizes, approaches, physically comforts, shares)	4
<u>Response to Distress of Familiar Adult</u>	
No response	5
Looks	8
Other responses (withdraws, neutral, aggression, self-concern, cessation of activity)	1
Prosocial	1
<u>Response to Lost Pen</u>	
No response	11
Looks	5
Prosocial	1
<u>Highest Level of Play</u>	
Sensori-motor (visual & tactile manipulation of objects)	0
Functional (rolls ball, cuts with scissors, rolls car)	6
Symbolic (uses dolls as people, feeds them, makes puppet talk)	3
Substitution (uses an object as if it were a different object)	0
Imaginary (pretends something is present when it is not)	8

TABLE 4
CORRELATIONS

	<u>Social Bids To Teacher</u>	<u>Social Bids To Others</u>	<u>Eye Contacts</u>	<u>Compliance To Social Bids</u>	<u>Global Sociability</u>	<u>Response To Stranger's Distress</u>	<u>Response To Familiar's Distress</u>	<u>Highest Level Of Play</u>	<u>Response To Lost Pen</u>
<u>Social Bids To Teacher</u>	1.0	.67**	.11	.37	.54*	.30	.04	.27	.37
<u>Social Bids To Others</u>		1.0	-.16	.06	.21	.12	-.28	.07	-.055
<u>Eye Contacts</u>			1.0	.20	.11	.00	.23	-.16	.051
<u>Compliance To Social Bids</u>				1.0	.53*	.19	.15	.37	.246
<u>Global Sociability</u>					1.0	.14	.19	.63**	.37
<u>Response To Stranger's Distress</u>						1.0	.28	.46	.18
<u>Response To Familiar's Distress</u>							1.0	.32	-.16
<u>Highest Level of Play</u>								1.0	.41
<u>Response To Lost Pen</u>									1.0

*p<.05

**p<.01